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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,299

10/15/2003

John C. Christenson

DP-310613

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06/14/2005

DELPHI TECHNOLOGIES, INC.  
M/C 480-410-202  
PO BOX 5052  
TROY, MI 48007

EXAMINER

NGUYEN, KHIEM D

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/686,299	<b>Applicant(s)</b> CHRISTENSON ET AL.	
	<b>Examiner</b> Khiem D. Nguyen	<b>Art Unit</b> 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/15/03</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group II, claims 11-20 in the reply filed on March 18<sup>th</sup>, 2005 is acknowledged.

### *Information Disclosure Statement*

The Information Disclosure Statement filed on October 15<sup>th</sup>, 2003 has been considered.

### *Claim Rejections - 35 USC § 102*

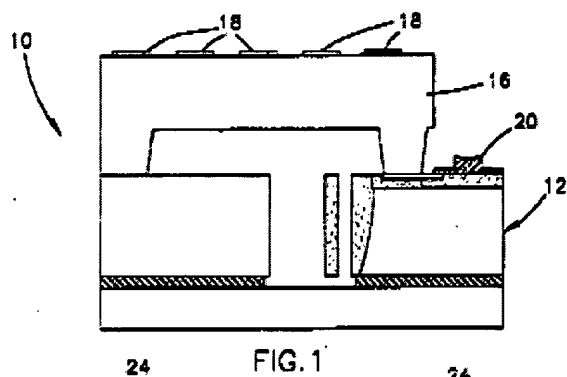
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

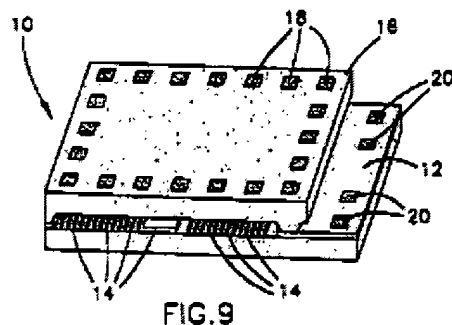
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Schubert et al. (U.S. Patent 5,721,162).

In re claim 11, Schubert discloses a micro-machined device assembly comprising: a device wafer 12 (col. 3, lines 14-24); a capping wafer (col. 2, lines 1-12) bonded on the device wafer to at least partially define a cavity (col. 8, lines 41-57 and FIG. 1);



at least one reservoir for receiving a liquid and retaining moisture, the at least one reservoir defining at least one reservoir port (col. 8, lines 41-57) in communication with the cavity; an exposed PN junction diode 14 disposed within the cavity, and adjacent to the at least one reservoir port (col. 4, lines 55-65 and FIG. 9); and



a pair of metal pads 20 connected to the exposed PN junction diode (FIG. 1).

In re claim 12, **Schubert** discloses that the at least one reservoir includes at least one diffusion channel connecting the at least one reservoir to the at least one reservoir port (col. 8, lines 41-57).

In re claim 13, **Schubert** discloses that the at least one reservoir and at least one diffusion channel are disposed in a sub-surface of the device wafer (col. 8, lines 41-57).

In re claim 14, **Schubert** discloses that the exposed PN junction diode is enclosed within the cavity and the pair of metal pads **20** is disposed outside the cavity (col. 8, lines 41-57 and FIGS. 1 and 9).

In re claim 15, **Schubert** discloses that the exposed PN junction diode **14** is formed in at least one of advantageous shapes comprising linear, segmented, bent, curve, oval, and circular (FIGS. 1 and 9).

In re claim 16, **Schubert** discloses that the exposed PN junction diode **14** is circular, and partially surrounding the at least one reservoir port (FIGS. 1 and 9).

In re claim 17, **Schubert** discloses that the PN junction diode is circular, and completely surrounding the at least one reservoir port (col. 8, lines 41-57 and FIGS. 1 and 9).

In re claim 18, **Schubert** discloses that the exposed PN junction diode defines a P region and an N region, and wherein one of the pair of metal pads is connected to the P region, and the other one of the pair of metal pads is connected to the N region (col. 4, lines 7-24 and FIG. 3).

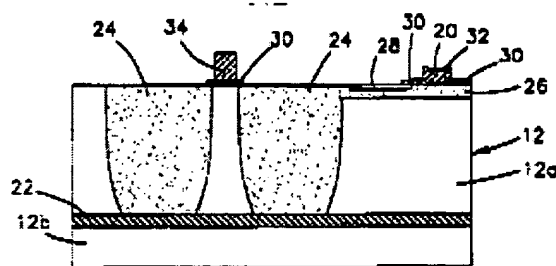


FIG. 3

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In re claim 19, **Schubert** discloses that the device assembly of claim 11 further includes at least one sensor element 14 disposed within the cavity and connected to sensor input and output pads outside the cavity (col. 8, lines 41-57 and FIGS. 1 and 9).

In re claim 20, **Schubert** discloses that the wafers are made of at least one semi-conducting material (col. 3, line 61 to col. 4, line 6).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.  
June 09<sup>th</sup>, 2005



**W. DAVID COLEMAN  
PRIMARY EXAMINER**